

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2
3
4 BEFORE THE BOARD OF PATENT APPEALS
5 AND INTERFERENCES
6

7 *Ex parte* JON R. STIEBER, THOMAS P. ADAMS, ROBERT L. ZWIEG, and
8 WILLIAM R. KIRKMAN

9
10 Appeal 2006-2607
11 Application 10/004,738
12 Technology Center 3600
13

14
15 Decided: November 21, 2007
16

17
18 Before MURRIEL E. CRAWFORD, HUBERT C. LORIN, and
19 ANTON W. FETTING, *Administrative Patent Judges*.
20 FETTING, *Administrative Patent Judge*

21
22
23 DECISION ON REQUEST FOR REHEARING
24
25

1 Jon R. Stieber, Thomas P. Adams, Robert L. Zwieg, and William R. Kirkman
2(Appellants) filed a REQUEST FOR REHEARING on April 26, 2007. The
3Appellants requested that we (1) grant the request for rehearing and (2) reverse the
4Examiner's rejection of claims 2-9 and 15-20 under 35 U.S.C. § 103(a) as being
5unpatentable over Amos, Watanabe, and Richardson.

6 The Examiner rejected claims 2-9 and 15-21 under 35 U.S.C. § 112 (second
7paragraph) as being indefinite. The Examiner also rejected claims 2-9 and 15-21
8under 35 U.S.C. § 103(a) as being unpatentable over Amos, Watanabe, and
9Richardson.

10 We affirmed the Examiner's rejection of claims 2-9 and 15-20, but reversed the
11rejection of claim 21 in our February 27, 2007 decision. In that decision we held
12that

- 13 ▪ The rejection of claims 2-9 and 15-21 under 35 U.S.C. § 112 (second
14 paragraph) was not sustained.
- 15 ▪ The rejection of claims 2-9 and 15-20 under 35 U.S.C. § 103(a) as being
16 unpatentable over Amos, Watanabe, and Richardson was sustained.
- 17 ▪ The rejection of claim 21 under 35 U.S.C. § 103(a) as being
18 unpatentable over Amos, Watanabe, and Richardson was not sustained.

19
20 We have considered the Appellants' arguments, but we DENY the REQUEST
21FOR REVERSAL in the REQUEST FOR REHEARING as to the rejection of
22claims 2-9 and 15-20 under 35 U.S.C. § 103(a) as being unpatentable over Amos,
23Watanabe, and Richardson.

1 ISSUES

2 The issue pertinent to this request is whether the Appellants have sustained
3their burden of showing that we misapprehended or overlooked the Appellants'
4points (37 C.F.R. § 41.52(a)(1)) and erred in sustaining the rejections of claims 2-9
5and 15-20 under 35 U.S.C. § 103(a) as being unpatentable over Amos, Watanabe,
6and Richardson.

7 The pertinent issue turns on whether it would have been obvious to connect
8note processing and coin processing devices by a wireless network operating over
9a relatively short distance without a server.

10 ANALYSIS

11 *Claims 2-9 and 15-20 under 35 U.S.C. § 103(a) as being unpatentable over Amos,*
12 *Watanabe, and Richardson.*

13 Claim 15, the sole independent claim, reads as follows

14 15. A cash management system comprising:

15 a first cash handling device for processing notes
16 including sorting of notes, totaling of notes received, and
17 communicating note totals to at least one of: a second cash
18 handling device, a visual display and communication through a
19 network,

20 wherein said first cash handling device does not [sic,
21 have] the capability to receive or dispense coins;

22 a second cash handling device for processing coins
23 including sorting of coins, totaling of coins received, and
24 communicating coin totals to at least one of: the first cash
25 handling machine, a visual display and a network,

26 wherein said second cash handling device does not have
27 the capability to receive or dispense notes; and

1 wherein said first cash handling device and said second
2 cash handling device have respective circuits for
3 communicating through a first wireless communication network
4 operating according to a network standard for locally
5 distributed wireless networks operating without servers; and

6 wherein the first cash handling device and the second
7 cash handling device provide a cooperative cash management
8 system in which the totals for notes and coins, respectively, are
9 brought together through wireless communication from these
10 respective devices within a range of no more than 100 meters
11 from each other and are displayed on at least one of the first
12 cash handling device, the second cash handling device or a third
13 device operating as a visual display no more than 100 meters
14 from one of the first the first cash handling device and the
15 second cash handling device.

16 We found that Amos describes the limitations of claim 15 except for a locally
17distributed wireless networks operating without servers. Amos does show that any
18network system may be used. We found that a network standard for locally
19distributed wireless networks operating without servers is a species that would be
20immediately envisaged within the taught genus of all network systems, because of
21its simplicity. We further found that Watanabe serves to provide further evidence
22that an ATM such as that in Amos would sort its contents and safeguard physical
23entry of coins and notes to ensure each went to the proper device and that
24Richardson shows that such a simple network, coupled with wireless
25communication, was notoriously well known at the time of the invention and could
26operate within a range of no more than 100 meters from one of the first cash
27handling device and the second cash handling device.

28 We further found that the actual limitation of separation of less than 100 meters
29does not affect the operation of the invention, but only serves to indicate the field
30in which the applicants envision practicing the invention. Whether the Appellants

1were the first to recognize a market for placing cash machines within such a range
2is not a basis for a persuasive argument because this range is a species of the genus
3of all ranges that wireless communications encompass, and Richardson suggests
4the advantages of such proximity in the choices of implementation modes available
5at the claimed ranges.

6 We concluded that it would have been obvious to a person of ordinary skill in
7the art to have applied Watanabe's ATM construction techniques to Amos because
8Watanabe shows implementation details of ATM's such as Amos. It would have
9been obvious to a person of ordinary skill in the art to have applied any of the
10wireless communication techniques of Richardson to Amos because Richardson
11demonstrates the notoriety of the wireless transmission taught by Amos, and also
12teaches several implementation details for such wireless transmission. Therefore
13we sustained the rejection of claim 15. (Decision 9-10).

14 As a preliminary matter, we review the breadth of claim 15. It requires only a
15note handling device and coin handling device within 100 meters of one another
16connected by a wireless peer to peer network, that each device be capable of
17providing totals, and the totals be presented on a display. Each of these elements
18provides the function for which it is designed. There is no contention that the
19combination produces functions beyond those provided by the individual
20components, other than the aggregation function. The functions of note and coin
21handling devices are self evident, and the function, costs and benefits of wireless
22networks contrasted with wired communication links were notoriously well known
23to those of ordinary skill.

1 The Appellants contend that

2 Although Amos asserts an ability to recycle cash in col. 1, lines 57-61
3 (Finding 2), there are no machine parts disclosed in Amos for
4 performing this function. Amos discloses in its claim 1 that the
5 currency accepting means is separate from the currency dispensing
6 means, and that the coin accepting means is separate from the coin
7 dispensing means to provide "a plural of said money transfer devices."
8 (Amos, col. 3, lines 42-50.)

9 To the extent that the Board finds that Amos describes an ATM
10 subassembly for both accepting and dispensing notes and an ATM
11 subassembly for both accepting and dispensing coins, this is not
12 disclosed in Amos (Request 5:¶'s numbered as 6 & 7).

13 We found that Amos describes subassemblies to receive, sort, and dispense
14notes, and subassemblies to receive, sort, and dispense coins (Amos 1:57-61 and
152:29-37). The Appellants raise the issue of whether the note subassemblies form a
16composite subassembly and whether the coin subassemblies form a composite
17subassembly.

18 One of ordinary skill would immediately recognize that they must be so
19composed to fulfill the functions disclosed by Amos. Watanabe demonstrates such
20a separation of mechanism. But in an abundance of caution for the sake of a
21complete evidentiary record, we explicitly set out what we implicitly found in our
22Decision. Anyone of ordinary skill in the art of currency and coinage mechanisms,
23and indeed almost anyone with common sense would know the following
24regarding notes and coins.

25 To accept and to disburse notes, the sorting mechanism, which must store notes
26for distribution, must be in electrical communication with the note receptor and
27dispensing subassemblies to guide the notes to and from the sorting mechanism.
28Because the notes are paper, they are lightweight and have a textured surface.

1Thus gravity feed is ineffective and they must be mechanically fed via some
2electrically powered friction mechanism. Similarly the coin sorter must be in
3electrical communication with the coin receptor and dispenser to ascertain what
4coins are being received and to determine which coins to dispense. Coins, in
5contrast with notes, are relatively dense, circular, and readily roll or drop unswayed
6by air currents under gravity. Thus, gravity feed is more effective than friction
7feed. The stark differences between the nature of notes and coins and the
8mechanisms employed to transport them make it essentially obligatory that the
9coin subassembly be distinguished from the note subassembly, and only integrated
10at their next higher level of logic. This distinction describes the separation of
11mechanism in Watanabe. Thus, there is substantial evidence from Watanabe and
12from the nature of the matter operated upon that the note subassemblies form a
13composite subassembly and the coin subassemblies form a composite
14subassembly, and each is separate from the other.

15 The Appellants next argue that Amos must communicate over large distances
16and would not suggest short range wireless network communication (Request 6-
177:¶¶s number 9 and 10).

18 Amos describes ATM's. ATM's dispense money. The number of ATM's in
19any location is thus dependent upon consumer demand. This demand may be
20seasonal or otherwise subject to heavy fluctuation. "Often, it will be necessary for
21a court to look to interrelated teachings of multiple patents; the effects of demands
22known to the design community or present in the marketplace; and the background
23knowledge possessed by a person having ordinary skill in the art, all in order to
24determine whether there was an apparent reason to combine the known elements in
25the fashion claimed by the patent at issue." *KSR, id.* at 1740-41.

1 Amos's note and coin subassemblies communicate with each other for
2accounting purposes. One of ordinary skill would infer that when multiple ATM's
3were in a single location, it would be predictable that they would be in
4communication with each other for the same reason. Amos explicitly shows that
5ATM's communicate with one another even when not in a common location
6(Amos, Figs. 2 and 3) and Amos shows that more than one communication link is
7used since the link between the note and coin mechanism with an ATM is separate
8from the link between ATM's of some distance.

9 Clearly if multiple ATM's were located in a contained area, they would not
10communicate with each other over a large distance, but rather over a short distance.
11Just as the link between the note and coin mechanisms require no network server,
12neither would a network of ATM's within a common location. Whether the
13technology for such a link existed is not in dispute, and its existence and
14desirability is evidenced by the Richardson reference. The only issue is the
15desirability in the context of Amos' ATM's. Such fluctuations in consumer
16demand were well within the knowledge of those of ordinary skill in ATM
17placement at the time of the invention.

18 The Appellants also argue that because there are over a hundred thousand
19network patents, it would not have been obvious to select a peer to peer wireless
20network (Request 6-7:¶ numbered 10). One of ordinary skill knew that at its most
21primitive level, the physical layer of a network is either wired or wireless. How
22many variations of each there might be did not diminish that stark reality.
23Ultimately, the physical connection is either by hard wire or by electromagnetic
24radiation. To make such a choice between alternatives of the most basic aspect of

1a communication link was well within the knowledge and capability of one of
2ordinary skill.

3 The Appellants next argue that neither Amos nor Watanabe suggest that each
4coin apparatus and each note apparatus each has its own wireless communication
5(Request 7:¶’s numbered 11-16).

6 This argument is not commensurate with the scope of the claim. Claim 15
7recites that the “first cash handling device and said second cash handling device
8have respective circuits for communicating through a first wireless communication
9network.” This does not require that each have the capacity to generate their own
10wireless communication, but only that they each have a circuit that communicates
11through a wireless network. Since each is able to tally and communicate its data to
12a separate accounting system, the circuits that provide such communication to the
13accounting system also would communicate through whatever wireless system
14were present during such a tally among multiple ATM’s.

15 The Appellants next argue that Richardson does not show that Bluetooth was
16old, but contemporaneous with the Appellants’ invention, and that Richardson does
17not show wireless communication between two computerized pieces of equipment
18(Request 8:¶’s numbered 17-19; also 10-11:¶’s numbered 22 and 23).

19 The Bluetooth Special Interest Group was formed in 1998 and the first
20specification for Bluetooth was created in 1999, at least a year prior to the
21December 4, 2000 provisional application filed by the Appellants.¹ More to the
22point, Richardson also describes more conventional radio links might be used
23(Richardson 3:58-59). Richardson Figs. 7-9 shows that a controller or adaptor is
24needed for both parts of the communicating equipment. Since these controllers

39¹ http://www.bluetooth.com/Bluetooth/SIG/History_of_the_SIG.htm

1control the passage of digital signals, they must employ memory and logic circuits
2and are thus computerized equipment. But more to the point, Richardson
3demonstrates that one of ordinary skill knew that cooperating pieces of equipment
4could communicate over a short range network that would not require a server for
5the purpose of mobility. Again, ATM's were known to be subject to variable
6demand and therefore one of ordinary skill would have known of their utility for
7meeting transient increases in demand if they were moveable.

8 The Appellants next argue that the art does not show two devices operating
9sufficiently far apart that wireless communication is necessary or two separate cash
10machines that operate wirelessly and show their combined totals on one display
11(Request 11:¶ numbered 24).

12 Whether the art shows the precise combination claimed explicitly is not as
13critical as what one of ordinary skill would have known. "[T]he analysis need not
14seek out precise teachings directed to the specific subject matter of the challenged
15claim, for a court can take account of the inferences and creative steps that a
16person of ordinary skill in the art would employ." *KSR, id.* at 1741. Richardson
17shows the desirability and capability of running cooperating pieces of equipment
18wirelessly over a short distance. Whether wireless communication is necessary is
19irrelevant – what is relevant is whether it is desirable and within the knowledge of
20a person of ordinary skill. Clearly this is the case as we discussed, *supra*. As to
21showing combined totals, any accounting system such as that described by Amos
22would present such combined totals on an output device.

23 The Appellants next argue that ATM's do not total quantities of notes and
24coins as such and there is no evidence that they do (Request 11:¶ numbered 25).

1 Claim 15 requires that “the totals for notes and coins, respectively, are brought
2together” which says nothing regarding quantities of notes and coins, in the sense
3of quantities of pieces of paper and of round metallic disks per se. This argument
4is not commensurate with the scope of the claim. A total monetary value such as
5any accounting system such as that described by Amos (FF) would present such
6totals.

7 The Appellants next argue with respect to claim 19 that Watanabe’s sorting
8does not suggest acceptance of unsorted notes and coins by separate note and coin
9machines because Watanabe has a common input for notes and coins (Request 11:¶
10numbered 26).

11 Watanabe describes a note and coin separator to convey notes and coins to
12their respective devices (FF). Thus the common input is irrelevant since it is
13immediately followed by a separating device. Clearly an operator may insert coins
14and notes in any sequence and Watanabe will direct the notes and coins to their
15respective sorters and sort.

16 The Appellants next argue that Richardson does not suggest the second display
17recited in claim 2 and 16 (Request 12:¶’s numbered 27-29).

18 We found that the I/O in the central server of Amos provided the I/O of claim 2
19(Decision 9-10), not the screen in Richardson.

20 The Appellants next argue that the art does not suggest the second network
21recited in claim 3 and 18 (Request 12:¶ numbered 30).

22 Since the wireless network would be applied to Amos for communication
23among plural ATM’s in a single location, the network shown by Amos Fig. 2
24communicating back to the central server would be the second network of claim 3.

1 The Appellants next argue that the present invention involves devices capable
2 of handling large amounts of cash over a short period of operation in which the
3 equipment is operated by a teller or employee and not a consumer, using the
4 present claimed invention, equipment within a bank or retail. There are no
5 consumers. It is an arrangement for scalable bulk processing of cash (Request
6 14:¶s numbered 34-36).

7 Claim 15 is directed toward a note machine, a coin machine, and a display
8 connected by a wireless network. There is nothing in claim 15 that would require
9 that it be capable of handling large amounts of cash over a short period of
10 operation in which the equipment is operated by a teller or employee and not a
11 consumer, within a bank or retail. “In determining whether the subject matter of a
12 patent claim is obvious, neither the particular motivation nor the avowed purpose
13 of the patentee controls. What matters is the objective reach of the claim. If the
14 claim extends to what is obvious, it is invalid under § 103.” *KSR, id.* at 1741-42.

15 CONCLUSIONS

16 The Appellants have not sustained their burden of showing that we erred in
17 sustaining the rejections of claims rejecting claims 2-9 and 15-20 under 35 U.S.C.
18 § 103(a) as being unpatentable over Amos, Watanabe, and Richardson.

1 DECISION

2 To summarize, our decision is as follows:

- 3 • We have reconsidered the Decision in light of the Appellant's arguments
4 presented in the Request for Rehearing.
5 • The rejection of claims 2-9 and 15-20 under 35 U.S.C. § 103(a) as being
6 unpatentable over Amos, Watanabe, and Richardson remains sustained.

7 No time period for taking any subsequent action in connection with this appeal
8 may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv)
9 (2007).

10 DENIED

11
12
13
14
15
16
17
18
19
20
21
22
23
24hh

25QUARLES & BRADY LLP
26411 E. WISCONSIN AVENUE
27SUITE 2040
28MILWAUKEE, WI 53202-4497